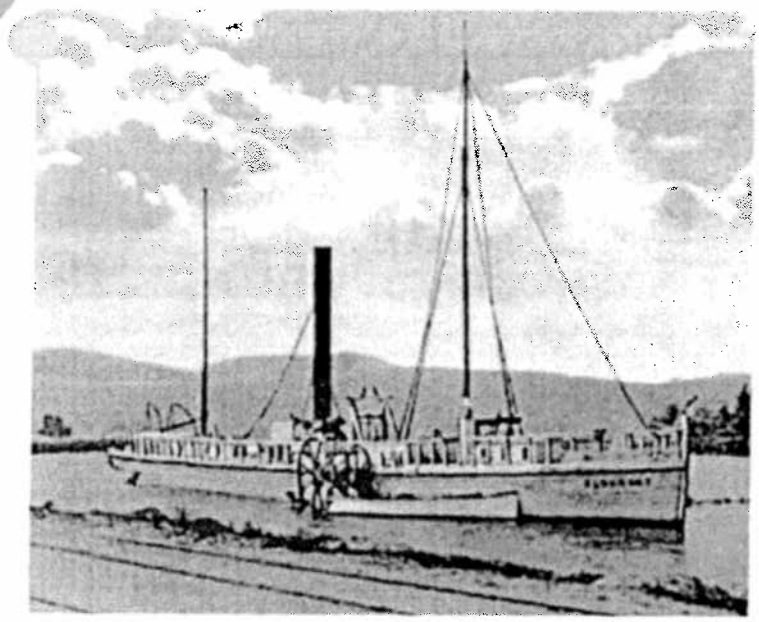
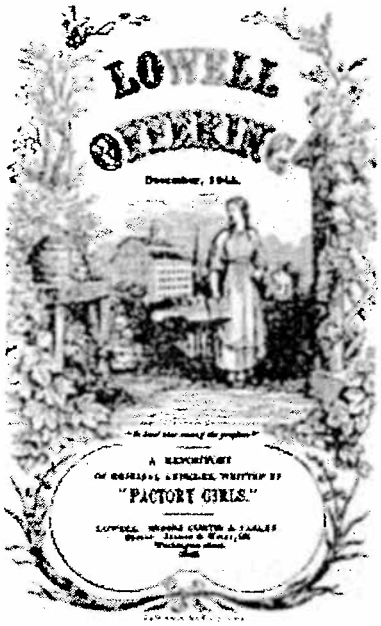
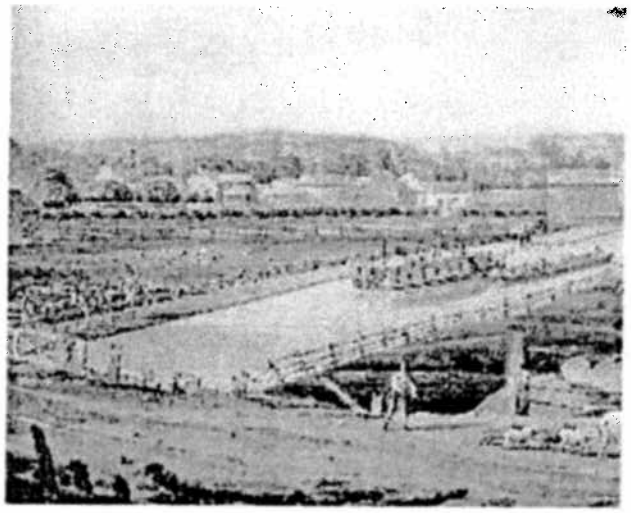
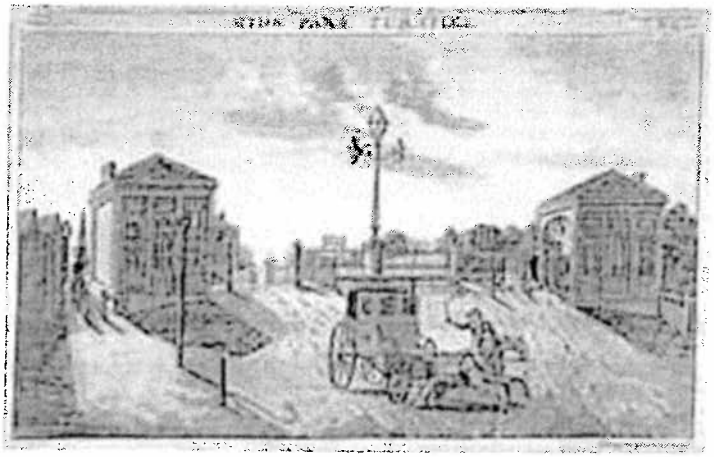





# Industrial Revolution & Internal Improvements





Name: _____ Section: _____

# Industrial Revolution & Internal Improvements Vocabulary

1. Industrial Revolution
2. Spinning Jenny
3. Capital
4. Capitalist
5. Factory System
6. Interchangeable Parts
7. Lowell Girl
8. Urbanization
9. Turnpike
10. Lancaster Road
11. Corduroy Road
12. National Road
13. Clermont
14. Erie Canal

# Notes

# The Industrial Revolution

I. Industrial Revolution
   a. Gradual process by which…
      i. _____ replace _____
      ii. _____ replaced _____

II. Background
   a. Began in English _____ in mid-_____s
      i. 1764, _____ invented the _____
         1. Machine that could spin _____
      ii. 1780, _____ invented the _____
         1. Loom powered by _____ that could produce much more _____ than previous machines

III. Factory System
   a. Before industrial revolution most goods were created by _____ in _____
   b. Large machines needed to be housed in _____ near _____
   c. _____ would provide _____ to build factories
      i. Workers would _____ to work in factories for daily or weekly _____

IV. Industrial Revolution Crosses the Atlantic

a. England wanted to keep new technology a secret

i. Passed _____ to stop people from taking plans out of the country

b. 1789, _____ memorized factory plans and _____ them out of England

i. Slater sold his plans to a Rhode Island capitalist named _____

ii. 1793, Brown built the first American factory in _____, _____

iii. _____ improved on the factory system by inventing _____ parts

1. All machine made parts would be _____

2. Interchangeable parts allowed broken parts to be fixed _____ and _____ and save _____ and _____

c. As more factories were built and grew, towns grew around factories

i. Called _____

ii. Example: _____

1. Built by _____

2. Young women called "_____" would live and work at the factory until they returned home to marry

V. Effects of the Industrial Revolution

a. _____

i. Long hours

1. _____ hour days, _____ days a week

ii. _____

1. Children as young as _____ worked in factories
2. _____ were needed to help support family
3. Most did not see a difference between children working in a _____ or on _____

b. Urbanization

i. Many people left _____ and moved to _____ to work in factories

ii. Movement of people from farms to cities is called _____

iii. Hazards of Cities:

1. _____
2. _____
3. _____
4. _____

iv. Attractions of Cities:

1. _____
2. _____
3. _____
4. _____

c. <u>Changes in Life Style</u>

   i. Family members had to _____ to earn a living

   ii. Changes affected the role of _____ in society

      1. Women place in society changed because her wages were _____

      2. Having a wife who stayed home became a sign of _____

# Internal Improvements

I. Early Transportation

a. Early routes and means of transportation made travel through the United States _____, _____, _____ and _____.

b. Examples:

i. Dirt roads

1. _____

2. Wagon wheels often _____ due to _____.

3. Obstacles often blocked roads

ii. Rivers

1. Traveling _____ was difficult

2. Boats needed to be _____ or _____ by hand

c. Starting around 1790, new _____ and _____ made traveling through the country _____, _____, _____ and _____

II. New Inventions

a. The _____ revolutionized land and water transportation.

i. _____: Allowed _____ and _____ to be transported up and down stream with much greater speed.

1. _____
    a. Built by _____
    b. Carried passengers _____ miles in _____ hours.

ii. _____: Drastically reduced the time it took to transport people and goods on land.

III. <u>Improvements to Roads</u>

a. _____:
    i. Made of _____
    ii. <u>Pro</u>: _____
    iii. <u>Con</u>: _____

b. _____:
    i. Built by _____ who charged for use
    ii. Built of _____ laid on _____ to help with drainage
    iii. First turnpike in _____!
        1. _____
        2. Linked _____ to _____

IV. Canals

a. Canal: _____ channel filled with _____ that allows boats to _____.

b. Built to help _____ get their crops to _____

i. Example:

1. _____: Links _____ with _____

V. Results

a. Internal Improvements and improvements in technology allowed Americans to move people and goods with greater_____, _____ and at _____.

i. Eastern states became increasingly tied together both _____ and _____

ii. As transportation became easier, more American began to _____.

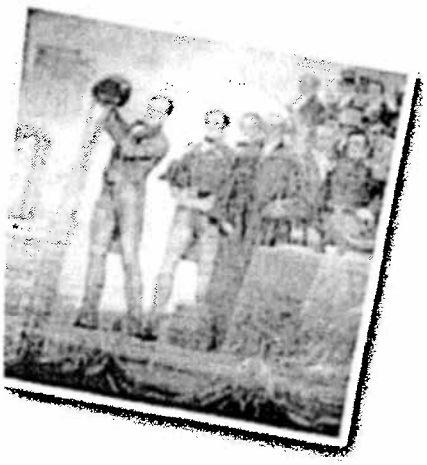
# Resources

Name: _____ Section: _____ Date: _____

# THE ERIE CANAL: A BRIEF HISTORY

(TAKEN FROM NEY YORK'S STAT WEBSTE AT HTTP://WWW.CANALS.NY.GOV/CCULTURE/HISTORY/)

Opened in 1825, the Erie Canal was the engineering marvel of the 19th Century. When the planning for what many derided as "Clinton's Folly" began, there was not a single school of engineering in the United States. With the exception of a few places where black powder was used to blast through rock formations, all 363 miles were built by the muscle power of men and horses.



"The Marriage of the Waters"

The Erie Canal proved to be the key that unlocked an enormous series of social and economic changes in the young nation. The Canal spurred the first great westward movement of American settlers, gave access to the rich land and resources west of the Appalachians and made New York the preeminent commercial city in the United States. At the beginning of the nineteenth century, the Allegheny Mountains were the Western Frontier. The Northwest Territories that would later become Illinois, Indiana, Michigan and Ohio were rich in timber, minerals, and fertile land for farming. It took weeks to reach these precious resources. Travelers were faced with rutted turnpike roads that baked to hardness in the summer sun. In the winter, the roads dissolved in a sea of mud.

Then - New York Governor DeWitt Clinton envisioned a better way: a Canal from Buffalo on the eastern shore of Lake Erie to Albany on the upper Hudson River, a distance of almost 400 miles.

"The city will, in the course of time, become the granary of the world, the emporium of commerce, the seat of manufactures, the focus of great moneyed operations," said Clinton. "And before the revolution of a century, the whole island of Manhattan, covered with inhabitants and replenished with a dense population, will constitute one vast city."

In 1817, Clinton convinced the State legislature to authorize $7 million for construction of a Canal 363 miles long, 40 feet wide and four feet deep.

In 1825, Governor Dewitt Clinton officially opened the Erie Canal as he sailed the packet boat Seneca Chief along the Canal from Buffalo to Albany. After

Name: _____ Section: _____ Date: _____

traveling from the mouth of the Erie to New York City, he emptied two casks of water from Lake Erie into the Atlantic Ocean, celebrating the first connection of waters from East to West in the ceremonial "Marriage of the Waters".

The effect of the Canal was immediate and dramatic and settlers poured west. The explosion of trade prophesied by Governor Clinton began, spurred by freight rates from Buffalo to New York of $10 per ton by Canal, compared with $100 per ton by road. In 1829, there were 3,640 bushels of wheat transported down the Canal from Buffalo. By 1837 this figure had increased to 500,000 bushels; four years later it reached one million. In nine years, Canal tolls more than recouped the entire cost of construction.

Within 15 years of the Canal's opening, New York was the busiest port in America, moving tonnages greater than Boston, Baltimore and New Orleans combined.

The impact on the rest of the State can be seen by looking at a modern map. With the exception of Binghamton and Elmira, every major city in New York falls along the trade route established by the Erie Canal, from New York City to Albany, through Schenectady, Utica and Syracuse, to Rochester and Buffalo. Nearly 80% of upstate New York's population lives within a 25 miles of the Erie Canal.

The Erie Canal's success was part of a Canal-building boom in New York in the 1820s. Between 1823 and 1828, several lateral Canals opened including the Champlain, the Oswego and the Cayuga-Seneca.

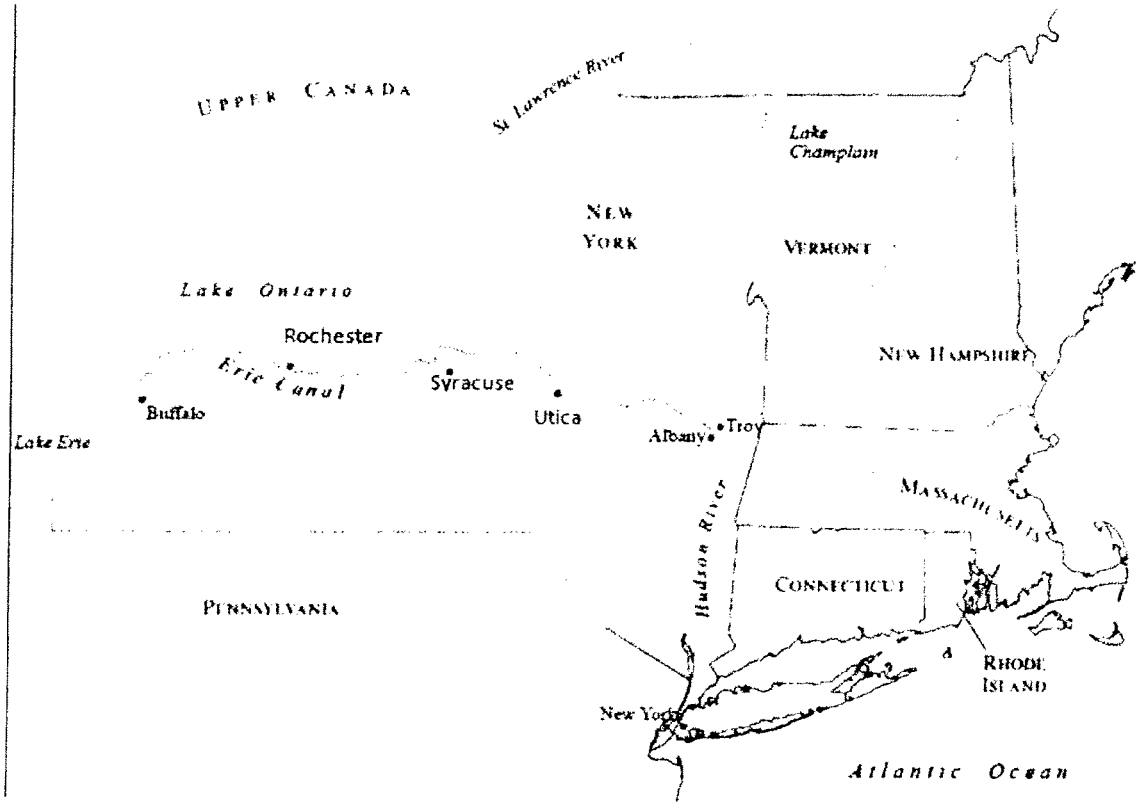
Between 1835 and the turn of the century, this network of Canals was enlarged twice to accommodate heavier traffic. Between 1905 and 1918, the Canals were enlarged again. This time, in order to accommodate much larger barges, the engineers decided to abandon much of the original man-made channel and use new techniques to "Canalize" the rivers that the canal had been constructed to avoid the Mohawk, Oswego, Seneca, Clyde and Oneida Lake. A uniform channel was dredged; dams were built to create long, navigable pools, and locks were built adjacent to the dams to allow the barges to pass from one pool to the next. When it opened in 1918, the whole system was renamed the New York State Barge Canal.

Name: _____ Section: _____ Date: _____

With growing competition from railroads and highways, and the opening of the St. Lawrence Seaway in 1959, commercial traffic on the Canal System declined dramatically in the latter part of the 20th century.

Today, the waterway network has been renamed again. As the New York State Canal System, it is enjoying a rebirth as a recreational and historic resource. The Erie Canal played an integral role in the transformation of New York City into the nation's leading port, a national identity that continues to be reflected in many songs, legends and artwork today.

In 2001, designated as the nation's 23rd National Heritage Corridor, the New York State Canal System joined the ranks of America's most treasured historical resources. Comprised of four Canals, the Canal System is historically significant for the many contributions it has made to establish New York State as an international center of commerce and finance.



Name: _____ Section: _____ Date: _____

## THE ERIE CANAL: A BRIEF HISTORY QUESTIONS

1) In what year did the Erie Canal open?_____

2) What was the main source of "power" used to build the Erie Canal? _____

3) The Erie Canal linked the eastern states with the Northwest Territories. What modern states were made out of the Northwest Territories? _____

_____

4) What was the name of the New York governor that was the driving force behind the canal's construction? _____

5) How much was the original construction cost of the canal? _____

6) What were the original dimensions of the canal? (How wide and deep was it?)

_____

7) What did Governor Clinton do upon the completion o the first journey on the Erie Canal? _____

8) How much did it cost to carry a ton of goods from Buffalo to New York City by canal? _____ How much did it cost by road? _____

9) How many bushels of wheat were transported on the canal in 1829? _____

10) How many bushels of wheat were transported on the canal in 1837? _____

11) How many bushels of wheat were transported on the canal in 1841? _____

12) Using the provided map, list the names of five major upstate New York cities that popped up along the canal route. _____

_____

Name: _____ Section: _____ Date: _____

13) In paragraph two the article states that "The Canal spurred the first great westward movement of American settlers, gave access to the rich land and resources west of the Appalachians and made New York the preeminent commercial city in the United States." Use the space provided to write a paragraph that explains how the Erie Canal helped to accomplish all of these goals.

Primary Sources and I

Historical Document

# *Factory Rules From the Handbook to Lowell, 1848*

**Established in 1813, the textile factory in Lowell, Massachusetts, became the most famous center of textile manufacturing in the country. Employing mostly young women from New England farm families, Lowell represented a model work community. The female workers, or "mill girls," were closely supervised. They were also required to follow the factory rules.**

**Main Idea** All employees at the Lowell factory must follow company rules.

All persons in the employ of the Hamilton Manufacturing Company, are to observe the regulations of the room where they are employed. They are not to be absent from their work without the consent of the overseer, except in cases of sickness, and then they are to send him word of the cause of their absence. They are to board in one of the houses of the company and give information at the counting room, where they board, when they begin, or, whenever they change their boarding place; and are to observe the regulations of their boarding-house.

Those intending to leave the employment of the company, are to give at least two weeks' notice thereof to their overseer.

All persons entering into the employment of the company, are considered as engaged for twelve months, and those who leave sooner, or do not comply with all these regulations, will not be entitled to a regular discharge.

The company will not employ any one who is habitually absent from public worship on the Sabbath, or known to be guilty of immorality.

A physician will attend once in every month at the counting-room, to vaccinate all who may need it, free of expense.

Any one who shall take from the mills or the yard, any yarn, cloth or other article belonging to the company, will be considered guilty of stealing and be liable for prosecution. . . .

Workers at a textile mill

## Analyzing Primary Sources

1. Where must the employees live?
   - **A** In apartments near the factory
   - **B** With friends in the area
   - **C** In housing provided by the company
   - **D** In housing chosen by the employee

2. Which statement best describes the rules listed here?
   - **A** Only women are hired.
   - **B** Most of the rules protect the company from loss of property on workers' time.
   - **C** Injured workers are paid.
   - **D** The worker must complete 18 months of service.

3. **Critical Thinking and Writing Applying Information** How would you describe the relationship between the employer and the employee at the Lowell factory in 1848? Explain.

# Robert Fulton's Clermont

## *Fulton Biography*

*Fulton, Robert (1765-1815)*, One of the Most Obscure of Famous Men in American History, was an inventor, mechanical and civil engineer, and artist. He is best known for designing and building the Clermont, the first commercially successful steamboat. The Clermont ushered in a new era in the history of transportation. In addition to his work with steamboats, Fulton made many important contributions to the development of naval warfare, the submarine, the design and construction of the first steam-powered warship, and to canal transportation.

## *Early years*

Fulton was born Nov. 14, 1765, on a farm near Little Britain in Lancaster County, Pennsylvania. He spent his boyhood in Lancaster, and showed inventive talent at an early age. He turned out lead pencils, household utensils for his mother, and skyrockets for a town celebration. Fulton developed a hand-operated paddle wheel for use on a rowboat. He also built a rifle that had sight.

Fulton went to Philadelphia at the age of 17, and was apprenticed to a jeweler. He soon began to win fame as a painter of miniatures and portraits. He saved enough money to buy a farm for his mother. At the age of 21, Fulton went to England to study with the fashionable American artist Benjamin West. In London, Fulton made a moderate living as an artist. But he became increasingly interested in scientific and engineering developments. After 1793, he gave his full attention to this field, and painted only for amusement.

# Robert Fulton's Clermont

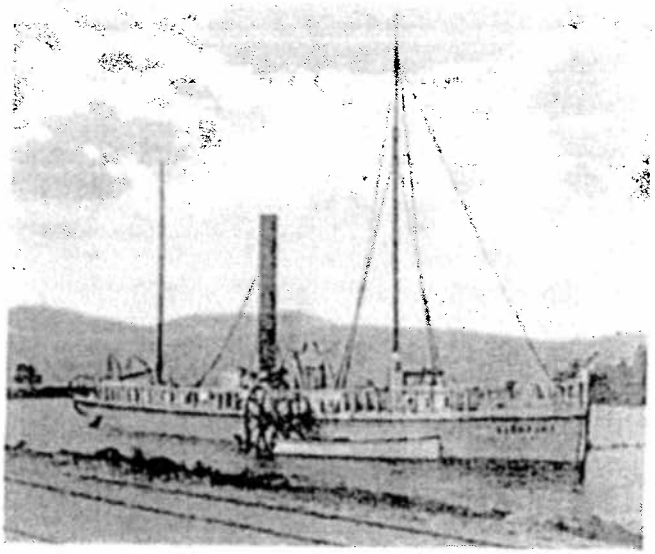
*The inventor*

Fulton's first enthusiasm was for canal development. He designed new types of canal boats, and a system of inclined planes to replace canal locks. Other mechanical problems challenged him. He invented a machine for making rope and one for spinning flax. He made a labor-saving device for cutting marble, and invented a dredging machine for cutting canal channels. In 1796, Fulton published an article on the Improvement of Canal Navigation. About 1797, Fulton turned his attention to the submarine. In 1801, he built a diving boat, the Nautilus, which could descend 25 feet (7.6 meters) underwater. Fulton's work with submarines continued until 1806. He realized the dangers that submarines would bring to naval warfare but thought that they might serve to limit sea war and piracy, for that very reason. Fulton's experimental submarines were able to dive and surface, and he succeeded in blowing up anchored test boat. However, the problem of propulsion underwater was never satisfactorily solved. Fulton's ideas interested both Napoleon Bonaparte and British Admirals, but neither ever adopted them wholeheartedly.

In 1802, Robert R. Livingston, the United States minister to France, interested Fulton in turning his attention to the steamboat. Fulton had been interested for many years in the idea of steam propulsion for a boat. An experimental boat, launched on the Seine River in Paris in 1803, sank because the engine was too heavy. But a second boat, which was built in the same year, operated successfully. Fulton returned to the United States in 1806.

# Robert Fulton's Clermont

*Fulton Builds the Clermont*



Fulton directed the construction of a steamboat in New York in 1807. Registered as the North River Steam Boat, the ship was generally called the Clermont after the Hudson River home of Robert Livingston. On Aug. 17, 1807, the steamboat started on its first successful trip 150 miles (241 kilometers) up the Hudson River from New York City to Albany, in about 30 hours, including an overnight stop. After extensive rebuilding, the boat began to provide regular passenger service on the Hudson. The Clermont was not the first steamboat to be built, but it was the first to become a practical, financial, and commercially successful steamboat. Fulton did not try to construct an engine himself, as earlier inventors had done. Instead, he ordered one from Watt and adapted it to his boat.

The Clermont was long and slender. From the shoreline of the Hudson River, spectators witnessed a shocking sight. There in the river was a mechanical monster spewing flames and smoke. It was 'Mr. Fulton's Folly'! Most of the people all thought the steam thingy would blow up and explode to the high heavens or roll over like a log that would sink fast. The people were wrong. Part of Fulton's success was due to his concern for passenger comfort. His handbills announced: Dinner will be served at exactly 2 o'clock...Tea with meats...Supper at 8 in the evening and a shelf has been added to each berth, on which gentlemen will please put their boots, shoes, and clothes, that the cabin will not be encumbered. After the success of the Clermont, Fulton became occupied with building and operating other boats. Fulton designed and built a steam-powered warship, Fulton the First, for the defense of

# Robert Fulton's Clermont

New York harbor in the War of 1812, but he died before the completion of this remarkable craft. The statue of Fulton in Statuary Hall, Washington, D.C., honors his achievements.

## Questions:

1) Where was Robert Fulton born?
2) How did Fulton show an inventive talent at an early age?
3) At the age of 21, what did Fulton go to England to study?
4) What did Fulton invent that interested both Napoleon Bonaparte and British Admirals?
5) What was the Clermont's official name?
6) How far did the Clermont travel on its first trip? How long did it take to travel that far?
7) Was the Clermont the first steamboat?
8) What was the Clermont the first steamboat to do?
9) What did onlookers first think of the Clermont?
10) What was built in Fulton's honor?

Coal Mining in NEPA

# BACKGROUND

MEN AND WOMEN, ADULTS AND CHILDREN CAME TO THE ANTHRACITE REGION FROM MORE THAN THREE DOZEN NATIONS BETWEEN 1850 AND 1920. SOME WERE SKILLED WORKERS, BUT MANY MORE HAD NO INDUSTRIAL JOB TRAINING.

PEOPLE CAME HERE FOR MANY DIFFERENT REASONS. SOME WANTED TO ESCAPE RELIGIOUS AND ECONOMIC OPPRESSION; OTHERS WERE FLEEING WAR AND FAMINE. REGARDLESS OF THE REASON, HOWEVER, NEARLY ALL ENDURED A LONG, DANGEROUS AND UNCOMFORTABLE JOURNEY IN ORDER TO BEGIN A NEW LIFE IN AMERICA.

PEOPLE CAME TO THE ANTHRACITE REGION ATTRACTED BY WORK IN THE MINES AND FACTORIES. MANY ARRIVED WITH THE HOPE OF EARNING ENOUGH MONEY TO RETURN HOME AND PURCHASE LAND. SOME INTENDED TO EARN ENOUGH TO SEND FOR THEIR FAMILIES.

THE RAPID GROWTH OF MINING DURING THE SECOND HALF OF THE NINETEENTH CENTURY CREATED A DEMAND FOR LABOR, AND STIMULATED AN INFLUX OF IMMIGRATION. GERMAN, ENGLISH, IRISH AND WELSH IMMIGRANTS PROVIDED THE BULK OF THE WORK FORCE BEFORE THE CIVIL WAR. THOSE FORM IRELAND, WALES AND ENGLAND OFTEN HAD MINING EXPERIENCE WHICH EXPLAINS, IN PART, THEIR INTEREST IN THE ANTHRACITE REGION.

AFTER THE CIVIL WAR, A SECOND WAVE OF IMMIGRATION OCCURRED. THESE PEOPLE WERE PRIMARILY FROM SOUTHERN AND EASTERN EUROPE, AND INCLUDED MANY OF ITALIAN AND SLAVIC HERITAGE.

NEW ARRIVALS BELIEVED THAT HARD WORK WAS THE KEY TO SUCCESS IN AMERICA. NEARLY ALL HEALTHY FAMILY MEMBERS JOINED THE LABOR FORCE. EVEN BOYS AS YOUNG AS SIX YEARS OLD SOMETIMES BEGAN TO WORK IN THE MINES. WOMEN PROVIDED A HOME SUPPORT SYSTEM FOR THE MINERS AND OFTEN TOOK CARE OF BOARDERS AS WELL. IN SOME CASES, CHILDREN WERE FORCED TO LEAVE SCHOOL BEFORE THEY WERE 12 YEARS OLD IN ORDER TO CONTRIBUTE TO THE FAMILY ECONOMY.

MINERS AND THEIR FAMILIES KNEW THAT THE MINES WERE A DANGEROUS PLACE TO WORK. AT THE SOUND OF THE COLLIERY WHISTLE, FAMILIES WOULD CONGREGATE AT THE MINE OPENING AND WAIT TO LEARN THE FATE OF THEIR LOVED ONES. BETWEEN 1870 AND 1899, SOME 9,575 LOST THEIR LIVES IN MINING-RELATED ACCIDENTS IN NORTHEASTERN PENNSYLVANIA ALONE.

AS MEN AND BOYS LABORED IN THE MINES AND COAL BREAKERS, WOMEN AND GIRLS, AFTER 1880, FOUND EMPLOYMENT IN THE GROWING NUMBER OF AREA SILK MILLS. THE ANTHRACITE REGION POSSESSED LOW COST FUEL, GOOD TRANSPORTATION SYSTEMS AND A READY SOURCE OF CHEAP LABOR. THE ANTHRACITE SILK INDUSTRY GREW TO NEARLY TWO HUNDRED COMPANIES BY 1910, EMPLOYING 20,000 WOMEN AND 5,000 CHILDREN.

*(CON'T NEXT PAGE)*

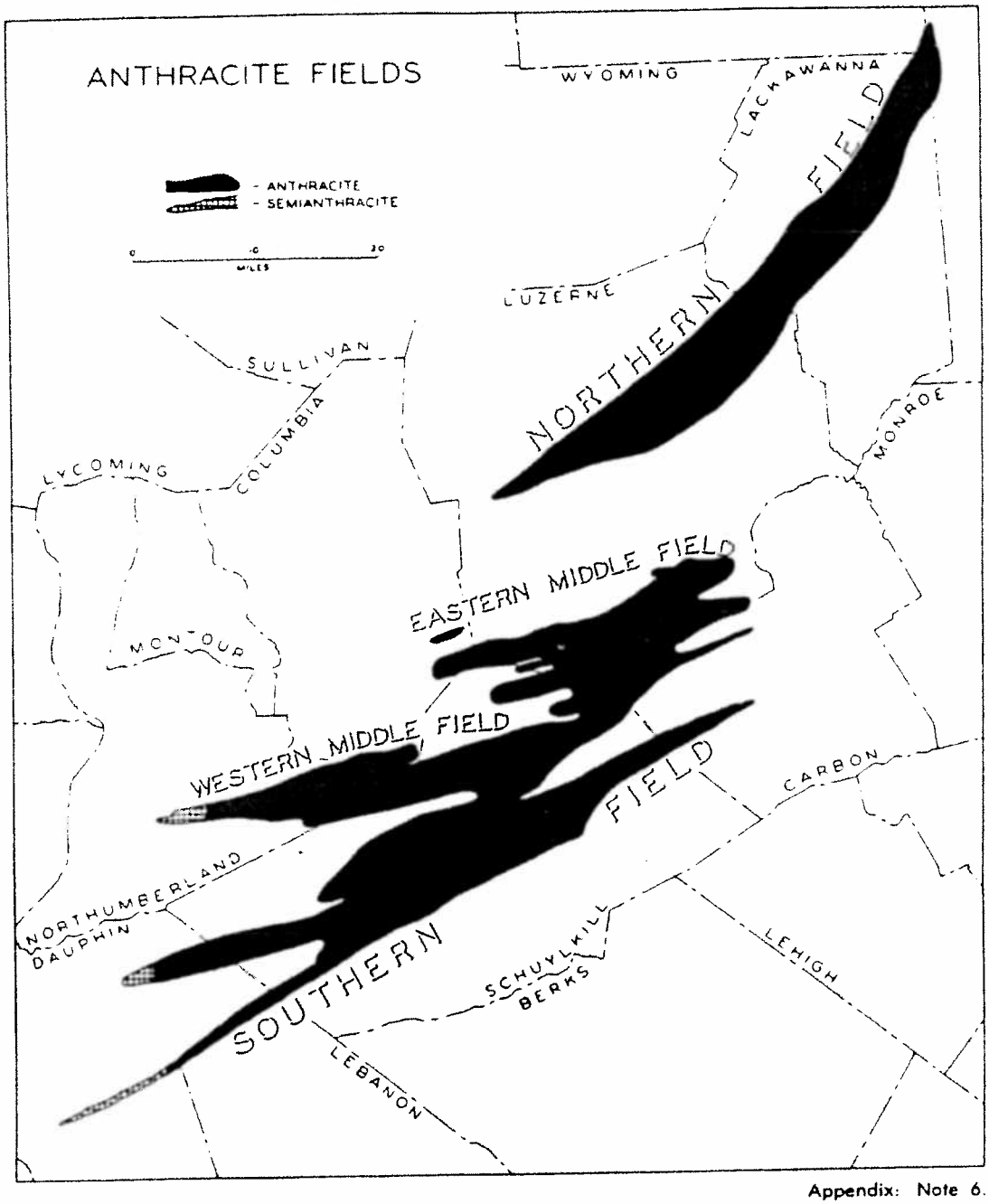
While the majority of immigrants to the region found jobs in the mines and mills, others obtained employment outside these dominant industries, and some even opened their own businesses. Often, these became commercial anchors in the various communities and neighborhoods that emerged and flourished.

Ethnic churches provided immigrants with a tangible link to their homeland. They also supplied a means of fellowship with individuals of similar background and socioeconomic status. During prolonged strikes and layoffs, ethnic churches sometimes served as the only means of support. A place to congregate and worship was usually one of the first steps in building an ethnic community.

In an effort to improve working conditions, miners, along with iron, railroad and silk mill employees, formed short-lived labor unions. Going back as early as 1848, these organizations helped workers voice their concerns over such topics as low wages and unsafe working conditions. By 1890, the United Mine Workers of America was established and quickly became the dominant union among the region's miners. A successful strike in 1900 and a settlement in 1902 secured higher wages and shorter hours for the miners and gave credibility to the union. John Mitchell, one of U.M.W.'s first presidents, helped the miner to have a say in the industry, succeeded in unifying mine workers within the Anthracite Region, and gained federal recognition for the U.M.W.

The widespread mining of Anthracite during the nineteenth and early twentieth centuries opened up northeastern Pennsyl-vania to development of all kinds. Today, the region is characterized by a wonderful ethnic diversity, and a tough and resilient people. A people with a fascinating history to tell.

*Photo Courtesy Of Wyoming Historical And Geological Society.*




Appendix: Note 6.

## ANTHRACITE FIELDS

The four anthracite fields of Pennsylvania — Northern, Eastern Middle, Western Middle, and Southern — comprise a 484-square-mile area in a 10-county region in the east-central and northeastern parts of the Commonwealth. County boundaries and names are shown for orientation purposes. Excluded from this and all subsequent maps, except where specifically indicated, is the semianthracite Bernice Field in nearby Sullivan County. Boundaries of the anthracite fields on this and all following maps on which they are shown are generalized, and include small areas that are not underlain by anthracite.

*Houses built directly over the mines or on culm banks often collapsed when the ground shifted.*

Postcard Collection of Charles Kumpas, Clarks Summit, Pennsylvania

CITIZENS' VOICE, WILKES-BARRE, PA., FRIDAY, JANUARY 22, 1982

Disaster Occurred 23 Years Ago

# Knox Survivor: 'I Was Ready to Die'

By DAVID SINGLETON
United Press International

Survivor Myron Thomas recalls it "sounded like two fast freight trains passing in a tunnel."

Twenty-three years ago Friday, the swollen, ice-clogged Susquehanna River burst through a thin rock cover and surged into the River Slope of the Knox Coal Co. at Port Griffith.

Of the 81 miners underground that day, 34 scrambled to safety immediately. Another 35, including two dozen led by Thomas, were rescued within eight hours.

But 12 miners — the unlucky ones — did not escape, and their bodies remain entombed in the dark and watery grave.

A product of freak weather and poor engineering, the disaster flooded mines throughout the Wyoming Valley and dealt a serious setback to the underground anthracite industry in the region.

The temperature on Jan. 22, 1959, was an unseasonably warm 62 degrees, and the Susquehanna — already bloated by a winter storm — swelled as melting snow turned to runoff.

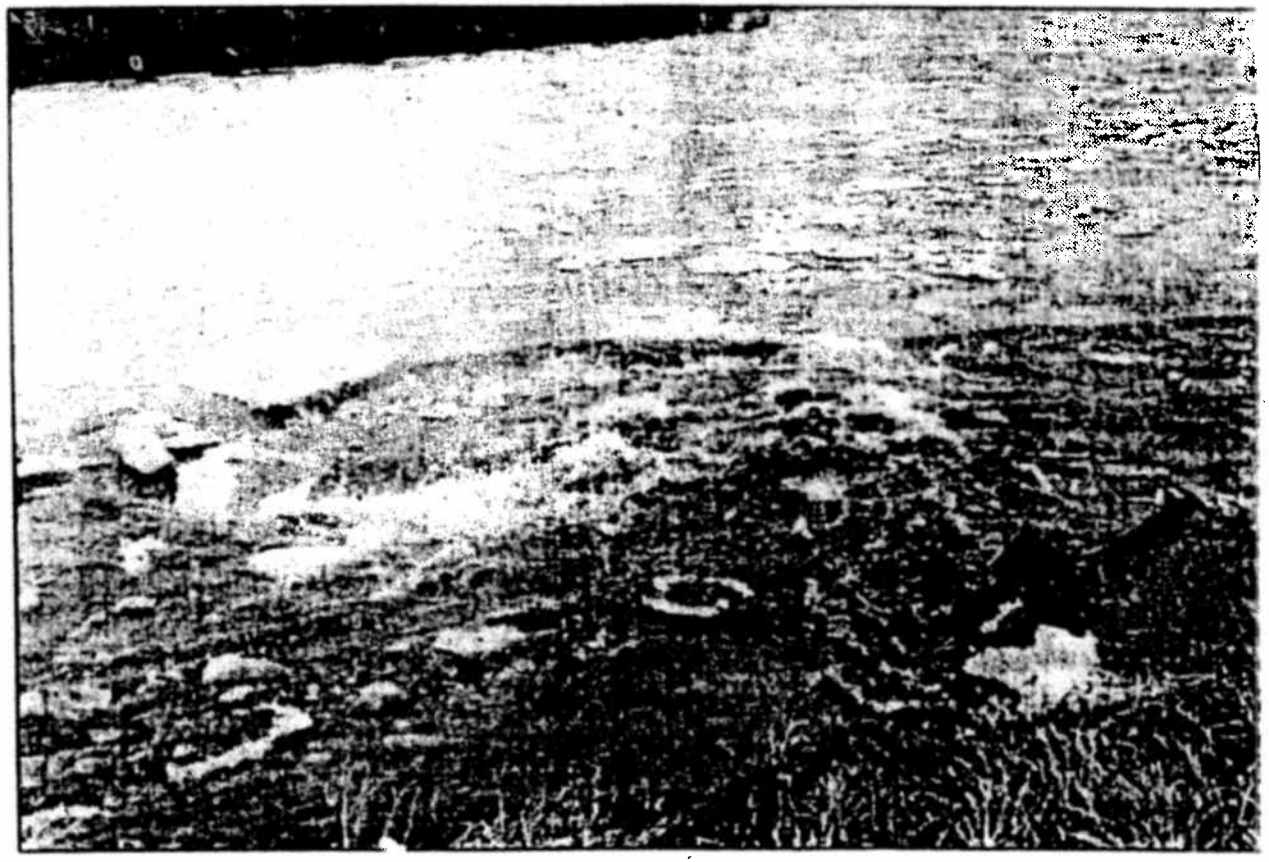
Located about 500 feet from the Susquehanna, the River Slope mine entrance led to a catacomb that extended beneath the river and along both sides.

At 11:42 a.m., the 14 inches of rock and 12 feet of river bottom that held back the Susquehanna gave way under pressure, and icy water gushed into the mine.

Thomas, a section foreman, was eating lunch in his office a half-mile from the mine entrance when a motorman spread the word that everyone was to evacuate immediately.

"They didn't tell us the river was in," said Thomas, now 66 and suffering from black lung as a result of 25 years in the mines. "And thank God we didn't know because we didn't panic.

"I didn't lose one man. If they had known, I probably would have lost half my men because of panic. By the time we did find out, we were all too scared to panic."



*Susquehanna Roils Around Mine Opening*

Thomas gathered 31 miners in his section and headed for the regular outlet, only to be turned back by high waters. Shortly after, seven miners in the group — including surveyor Joe Stella — became separated from the main body.

Sticking to high ground, Thomas and his 24 miners inch ed their way, sometimes through chest-deep water toward an abandoned area of the mine where Thoma believed there would be an old outlet known as Eagl Shaft and safety.

Coal Mining in NEPA

1. Immigrants from which countries often had prior experience in coal mining?

2. How did many immigrants find ways to feel connected to their homelands and customs?

3. Using the map on the third page of this article, which "field" of anthracite coal sits under our area?

4. Why did the Knox Mine Disaster somewhat mark the end of mining in NEPA?

**A Miner's Story**
Independent, LIV (June 12, 1902), 1407 10.

I am thirty five years old, married, the father of four children, and have lived in the coal region all my life. Twenty three of these years have been spent working in and around the mines. My father was a miner. He died ten years ago from "miners' asthma"

Three of my brothers are miners; none of us had any opportunities to acquire an education. We were sent to school ( such a school as there was in those days) until we were about twelve years of age, and then we were put into the screen room of a breaker to pick slate. From there we went inside the mines as driver boys. As we grew stronger we were taken on as laborers, where we served until able to call ourselves miners. We were given work in the breasts and gangways. There were five of us boys. One lies in the cemetery fifty tons of top rock dropped on him. He was killed three weeks after he got his job as a miner a month before he was to be married

In the fifteen years I have worked as a miner I have earned the average rate of wages any of us coal heavers get To day I am little better off than when I started to do for myself. I have $100 on hand; I am not in debt; I hope to be able to weather the strike without going hungry.

I am only one of the hundreds you see on the street every day. The muscles on my arms are no harder, the callous on my palms no deeper than my neighbors' whose entire life has been spent in the coal region. By years I am only thirty five. But look at the marks on my body; look at the lines of worriment on my forehead; see the gray hairs on my head and in my mustache; take my general appearance, and you'll think I'm ten years older.

You need not wonder why. Day in and day out, from Monday morning to Saturday evening, between the rising and the setting of the sun, I am in the underground workings of the coal mines. From the seams water trickles into the ditches along the gangways; if not water, it is the gas which hurls us to eternity and the props and timbers to a chaos.

Our daily life is not a pleasant one. When we put on our oil soaked suit in the morning we can't guess all the dangers which threaten our lives. We walk sometimes miles to the place to the man way or traveling way, or to the mouth of the shaft on top of the slope. And then we enter the darkened chambers of the mines. On our right and on our left we see the logs that keep up the top and support the sides which may crush us into shapeless masses, as they have done to many of our comrades.
We get old quickly. Powder, smoke, after damp, bad air all combine to bring furrows to our faces and asthma to our lungs.

I did not strike because I wanted to; I struck because I had to. A miner the same as any other workman must earn fair living wages, or he can't live. And it is not how much you get that counts. It is how much what you get will buy. I have gone through it all, and I think my case is a good sample.

Let us look at things as they are to day, or as they were before this strike commenced.

My last pay envelope shows my wages, after my laborer, powder, oil and other expenses were taken off, were $29.47; that was my earnings for two weeks, and that was extra good The laborer for the same time got some $21. His wages are a trifle over $10 a week for six full days. Before the strike of 1900 he was paid in this region $1.70 per day, or $10.20 a week If the ten per cent. raise had been given, as we expected, his wages would be $1.87 per day, or $11.22 per week, or an increase of $1.02 per week. But we all know that under the present system he doesn't get any eleven dollars.

Well, as I said, my wages were $29.47 for the two weeks, or at the rate of$58.94 per month My rent is $10.50 per month. My coal costs me almost $4 per month. We burn a little over a ton a month on an average and it costs us over $3 per ton. Light does not cost so much; we use coal oil altogether.

When it comes down to groceries is where you get hit the hardest. Everybody knows the cost of living has been extremely high all winter. Butter has been 32, 36 and 38 cents a pound; eggs as high as 32 cents a dozen; ham, 12 and 16 cents a pound; potatoes away up to a dollar, and cabbage not less than a cent a pound Fresh meat need not be counted Flour and sugar did not advance, but they were about the only staples that didn't. Anyhow, my store bill for those two weeks was $11. That makes $22 per month The butcher gets $6 per month Add them all, and it costs me, just to live, $42.50. That leaves me $17 per month to keep my family in clothes, to pay my church dues and to keep the industrial insurance going. My insurance alone costs me 55 cents a week, or $2.20 a month
The coal president never allows his stable boss to cut the amount of fodder allotted to his mules. He insists on so many quarts of oats and corn to the meal and so much hay in the evening. The mule must be fed; the miner may be, if he works hard enough and earns money to buy the grub.

Company stores are of the time that has been Their existence ended two years ago. But we've got a system growing up that threatens to be just as bad Let me explain. Over a year ago I was given a breast to drive at one of our mines and was glad to get it. My wife took her cash and went around the different places to buy. When I went to the office for my first pay the "supee" met me and asked me if I didn't know his wife's brother George kept a store. I answered "Yes," and wanted to know what that had to do with it
"Nothing, only I thought I'd call your attention it it," he answered.

No more was said then. But the next day I got a quiet tip that my breast was to be abandoned This set me thinking. I went to the boss and, after a few words, told him my wife had found brother in law George's store and that she liked it much better than where she had bought before. I told him the other store didn't sell the right kind of silk waists, and their patent leather shoes were away back. Brother in law George had the right kind of stuff and, of course, we were willing to pay a few cents more to get just what we wanted
That was sarcastic, but it's the cash that has the influence. I have had work at that colliery ever since. I know my living costs me from 10 to 15 per cent extra. But I kept my job, which meant a good deal.

I was married in 1890, when I was 23 years old quite a bit above the age when we miner boys get into double harness. The woman I married is like myself. She was born beneath the shadow of a dirt bank; her chances for school weren't any better than mine; but she did have to learn how to keep house on a certain amount of money. After we paid the preacher for tying the knot we had just $185 in cash, good health and the good wishes of many friends to start us off.

Our cash was exhausted in buying furniture for housekeeping. In 1890 work was not so plentiful, and by the time our first baby came there was room for much doubt as to how we would pull out Low wages, and not much over half time in those years, made us hustle. In 1890 91, from June to May, I earned $368.72. That represented eleven months' work, or an average of $33.52 per month Our rent was $10 per month; store not less than $20. And then I had my oil suits and gum boots to pay for. The result was that after the first year and a half of our married life we were in debt Not much, of course, and not as much as many of my neighbors, men of larger families, and some who made less money, or in whose case there had been sickness or accident or death. These are all things which a miner must provide for I have had fairly good work since I was married I made the average of what we contract miners are paid; but, as I said before, I am not much better off than when I started.

In 1896 my wife was sick eleven weeks. The doctor came to my house almost every day. He charged me $20 for his services. There was medicine to buy. I paid the drug store $18 in that time. Her mother nursed her, and we kept a girl in the kitchen at $1.50 a week, which cost me $15 for ten weeks, besides the additional living expenses.

In 1897, just a year afterward, I had a severer trial. And mind, in those years, we were only working about half time. But in the fall of that year one of my brothers struck a gas feeder. There was a terrible explosion. He was hurled downward in the breast and covered with the rush of coal and rock. I was working only three breasts away from him and for a moment was unable to realize what had occurred Myself and a hundred others were soon at work, however, and in a short while we found him, horribly burned over his whole body, his laborer dead alongside of him.

He was my brother. He was single and had been boarding. He had no home of his own. I didn't want him taken to the hospital, so I directed the driver of the ambulance to take him to my house. Besides being burned, his right arm and left leg were broken, and he was hurt internally. The doctors there were two at the house when we got there said he would die. But he didn't. He is living and a miner to¬day. But he lay in bed just fourteen weeks, and was unable to work for seven weeks after he got out of bed He had no money when he was hurt except the amount represented by his pay. All of the expenses for doctors, medicine, extra help and his living were borne by me, except $25, which another brother gave me. The last one had none to give. Poor work, low wages and a sickly woman for a wife had kept him scratching for his own family.

It is nonsense to say I was not compelled to keep him, that I could have sent him to a hospital or the almshouse. We are American citizens and we don't go to hospitals and poorhouses.

Now you must take into consideration that I am a contract miner and that my earnings are more than the wages of three fourths of the other fellows at the same colliery. It is not that I am a favorite with the boss. I just struck a good breast Maybe next month my wages would be from two to six or seven dollars less.

In the days of Pardee, Coxe, Fagley, Fulton, Dewees, Paterson, Riley, Replier, Graeber and a hundred others, men were better paid than they have ever been since the centralization ideas of the late Franklin B. Gowen became fixed institutions in the anthracite counties. It may be true that in the days of the individual operation the cost per ton of mining coal was less than it is to day. But it is not right that the entire increase in the cost of mining should be charged to the miner. That is what is being done, if you count the reductions made in wages.

We miners do not participate in the high prices of coal. The operators try to prove otherwise by juggling with figures, but their proving has struck a fault, and the drill shows no coal in that section One half of the price paid for a ton of coal in New York or Philadelphia goes into the profit pocket of the mine owner, either as a carrier or miner.

We all know that the price of coal has advanced in the past twenty years. We also know that wages are less, that the cost of living is higher. I remember the time, when I was a wee lad, my father used to get his coal for $1 per ton. Now I pay $3. In those days we lads used to go to the dirt banks and pick a load of coal, and it cost our parents only a half a dollar to get it hauled home. We dare not do that now. Then we did not need gum boots, safety lamps or any such things as that; and for all of them we must now pay out of wages that have been reduced.

Our condition can be no worse; it might and must be better. The luxuries of the rich we do not ask; we do want butter for our bread and meat for our soup. We do not want silk and laces for our wives and daughters. But we want to earn enough to buy them a clean calico once in a while. Our boys are not expecting automobiles and membership cards in clubs of every city, but they want their fathers to earn enough to keep them at school until they have a reasonably fair education.

Pennsylvania

"A Miner's Story"

Directions: Place an "X" next to the statements that the story supports or that you agree with.

I. What did the author say?

_____ He has been a coal miner for over twenty years.

_____ He works six days a week.

_____ His brother was killed in a mine accident.

_____ He makes more money than most of his co-workers.

II. What did the author mean?

_____ Life as a coal miner makes a man age faster.

_____ Coal mining is a dangerous job.

_____ Mine owners are not fair to their employees.

_____ He hates that he had to take care of his brother.

III. Do you agree with these statements?

_____ People who have the least problems often complain the most.

_____ Those who work the hardest in life will receive the greatest rewards.

_____ You can never be too busy to help your family.

# CHILD LABOR

Do you have to do chores when you go home? Do you feel that you are being overworked in school? Is too much of your valuable time taken up each day with tasks that could be performed by someone else? Have you thought about how easy life could be for you? Have you thought about what it would be like if you really, really had to work? Consider how some children lived just 100 years ago in our country.

Child labor began in the U.S. in 1790 when Samuel Slater established a cotton mill in Rhode Island. He copied the English mill machinery and the English practice of using boys and girls to operate it. England was short of workers because of emigration to the colonies, and it had a huge number of what were called "pauper children." In the U.S. mills, children were preferred over adults for their small, nimble fingers. And, one should remember, slavery in our country was common for more than two and a half centuries. Soon factories throughout the Eastern part of our country employed young children. The sweat, pain, and tears of our country's young people made the U.S. a leading industrial power. And since these young laborers could not attend school, they grew up incapable of anything but unskilled work. This is a chapter in our history, however, which is hard for people living in the 1990's to believe. If the way a nation treats its children is a mark of its character, we should perhaps look at our nation's history in a new and different way.

In 1832, 40 % of all factory workers in New England were children. The 1870 census shows that 750,000 laborers were under fifteen. Eight and ten year old children worked 10-12 hours a day barely making $1.00, a week! In 1900 almost two million children under the age of sixteen worked in the U.S.. Some worked up to thirteen hours a day.

For many years children played a major part in our country's industrial growth. The Industrial Revolution produced a few hundred very wealthy factory owners, but it made millions of laborers suffer in an oppressive system that took advantage of children. Child labor, like slavery, started because of greed. It probably seemed natural in a way, since every member of a family worked on farms and small family businesses in colonial times. And too, according to the textbook, as many as one third of the early settlers of Virginia came as indentured servants, most all of them young. When the U.S. went from a farming to an industrialized nation, putting children to work was necessary for the family to make ends meet. New immigrants to our country often had to work for very low wages, and most of these families had no choice but to send their children to work too. The difference in working for the family was that farm work was in the fresh air, and working

in a family business did not put the child under a lot of pressure.

The industrial setting was very different. There are many stories of overcrowded factories with filthy conditions, poor ventilation, and unpleasant surroundings. The bosses were often very mean and carried sticks to hit the children when they didn't work hard or fast enough. Children would report for a 6 p.m. to 6 a.m. night shift of sweeping floors. Bosses would throw buckets of cold water on them if they fell asleep or passed out from exhaustion. Before these children grew out of adolescence, they looked like old men and women.

Children worked in iron foundries, loading docks, and in glass making plants. Right here in our own area, the Anthracite Capital of the World, boys as young eight worked ten-hour days for sixty cents. Hiring young boys to work in the coal breakers was a regular practice, even though it was very dangerous work. These boys developed permanently bent backs picking coal impurities from the chutes. They were not allowed to get up and walk or stretch, and they had to raise their hands for permission to go to the bathroom. Because of the sharp edges of the coal, these young workers ended up with permanently disfigured hands. Deep down in the mines, boys led the mules that hauled the coal cars. Some were in charge of opening and closing the doors between the shafts. If one fell asleep in the dark cold space and did not hear the rushing coal car coming, he paid for it with his life.

Reporters looking for stories to publish, and the development of photography made people aware the horrible conditions of child labor. The American public was shocked. Lewis Hines' photos and the influential writings of John Spargo, the Van Vorsts, and Jacob Riis pointed out the need for reforms. An angry piece of verse by Sarah Cleghorn helped to arouse the public against child labor:

> The golf links lie so near the mill
> That almost every day
> The laboring children can look out
> And see the men at play.

For a long time, protecting children from the abuses of the workplace was left to poor, mostly ignorant parents. Organized efforts finally met with success when the labor unions demanded action. Actually, their involvement was not so much out of concern for the children as it was protecting their own jobs from employers who regularly replaced adult workers with lower paid and easier-to-bully children. The Fair Labor Standards Act was finally passed in 1938 and, unlike earlier laws to protect the child, this one was upheld by the Supreme Court. This is the basic child labor

law of the United States today. It states that employers involved in interstate commerce may not hire anyone under sixteen or anyone under eighteen in hazardous jobs. Children 14-16 can be employed after school under certain circumstances. While states can make laws of their own, these laws cannot conflict with the federal law.

Not all child labor has been eliminated: there are still many children working in the agricultural sector, and many in dangerous jobs. While there remains more work to be done to protect children in the workplace, much progress has been made. And perhaps this teaches us a lesson: we have not always followed the high ideals of the Declaration of Independence and the Constitution in our national life.

# Article - Child Labor

1. What percentage of factory workers in 1832 were children?

2. Why was working in factories and coal mines harder on children than working on farms or in family businesses?

3. What problems developed in children who worked in the mines?

4. What is the verse about "golf links" trying to say about child labor?

5. How did the Fair Labor Standards Act of 1938 try to protect children as workers?

Nov 7th, 2004 Scr. Times

# review

## Jobless rate dips

After topping out at 7 percent twice in the last quarter, the region's unemployment rate slipped one tenth of a percentage point in September, with the number of people in the area's work force continuing to climb.

The regional figure of 6.9 percent remains above the nation and Pennsylvania as a whole.

## Chamberlain strikes

More than 260 union workers at Chamberlain Manufacturing Corp. in Scranton walked off the job after rejecting a three-year contract offer, citing rising health care costs.

Members of the International Association of Machinists and Aerospace Workers Local 847 picketed outside the Cedar Avenue entrance to the plant.

## KB Toys closing

KB Toys will close all three area stores by the end of January as part of its efforts to emerge from Chapter 11 bankruptcy protection.

The Pittsfield, Mass.-based toy retailer is closing 141 underperforming stores, including ones at the Mall at Steamtown in Scranton, the Wyoming Valley Mall in Wilkes-Barre Township, and the Laurel Mall in Hazleton.

## Cell settlement

Nextel C[illegible]unications Inc. and Verizon Wireless un-

# PROCTER & GAMBLE ON A ROLL

## Company makes more diapers, toilet tissue, but not adding w[illegible]

workers

BY D[illegible]
TIMES S[illegible]

LINDA MORGAN / TIMES SHAMROCK NEWSPAPERS

**Dave Jeffries, of Tunkhannock, an employee of Kane is Able Trucking, loads pallets of paper products onto his truck at the Procter & Gamble plant.**

More dia[illegible] and paper [illegible] from the [illegible] plant in [illegible] ship. Since [illegible] cility has i[illegible] 30 percen[illegible] household [illegible] into store[illegible] America.

Faster [illegible] manned rol[illegible] self-loading [illegible] ing the c[illegible] company re[illegible] levels.

"We are [illegible] figure out h[illegible] of our asset[illegible] customers [illegible] O'Hara, a [illegible] spokesman [illegible]

But even [illegible] County fac[illegible] gangbusters [illegible] Procter & [illegible] than four [illegible] manufactur[illegible] products, [illegible] growth thro[illegible] ciency and [illegible] line payroll [illegible] through shi[illegible] side contrac[illegible] ally pay thei[illegible]

While the [illegible] the plant mo[illegible] raised conc[illegible] employees, [illegible] one-time P[illegible]

**By the** | Manufacturing in Pa[illegible]

BY DAVID FALCHEK
TIMES SHAMROCK WRITER

More diapers, toilet paper, and paper towels are coming from the Procter & Gamble plant in Washington Township. Since 2000, the giant facility has increased output by 30 percent, sending more household products than ever into stores across North America.

Faster machinery, unmanned robotic fork lifts and self-loading trucks are helping the consumer products company reach new efficiency levels.

"We are always trying to figure out how to get more out of our assets as we try to offer customers value," said Chuck O'Hara, a Procter & Gamble spokesman in Mehoopany.

But even as the Wyoming County facility grows like gangbusters, it has 200 fewer Procter & Gamble employees than four years ago. Like manufacturers of a variety of products, it is achieving growth through gains in efficiency and cuts in its bottom line payroll costs — largely through shifting work to outside contractors, who generally pay their employees less.

While the shift has made the plant more efficient, it has raised concern among some employees, who have seen one-time P&G jobs turned over to staffing agencies and contractors. P&G managers gained the employment decline through attrition and offering early retirement buy outs. There have not been layoffs.

Cutting employment is not a sign of weakness. In manufacturing, reducing employment can be seen a good sign. Even as Procter & Gamble cuts direct employment, the company has invested hundreds of million of dollars in equipment.

Sitting on a bend off the Susquehanna River in Wyoming County, Procter & Gamble Paper Products Co. is the Cincinnati-based company's largest facility in North America. With 2,250 employees, Procter & Gamble is one of the region's largest private employers. That figure doesn't include more than 1,500 contract employees working at the plant, doing everything from driving trucks and trimming the hedges to sweeping the floors and greasing machines.

With an annual payroll of $125 million and another $300 million to purchase materials, supplies and services, Procter & Gamble is a pillar of the region's economy. If the Washington Township plant were its own company, it would be in the Fortune 500.

The local facility is in an elite league of employers in the Northeastern Pennsylvania. Only the Tobyhanna Army Depot and Aventis Pas-

*Please see P&G, Page H4*



# P&G

FROM PAGE H1

teur in Swiftwater have an employee draw or economic impact as broad as Procter & Gamble, said James Cummings, president of Penn's Northeast, a regional marketing group.

"Using economic multipliers, you are looking at a $1 billion-plus infusion into the economy," Mr. Cummings said.

## Making gains

P&G Mehoopany isn't excessively dirty or noisy. But it is excessively large — eight acres under roof billowing out endless pillars of steam into the mountain valley.

A walk from one end of the plant to the other is often more than one mile. Employees make the trip on three-wheeled bicycles adorned with fluorescent orange flags. The goggle-wearing pedalers smile and wave to co-workers as though on a Sunday morning boardwalk bike ride.

That vastness has posed challenges for the company. Transporting the 1,000-pound rolls of uncut Bounty or Charmin from the paper machines to the converting lines kept teams of forklift drivers busy running the routine route. Now, beeping "automated guided vehicles" tirelessly run the programmed quarter mile circuit. Reading sensors on walls and pillars and running within blue tape lines on the floor, they move like mechanical knights — a single rod spearing the giant rolls.

Other active but unstaffed portions of the facility are the loading docks. Gone are scrambling forklifts. In fact, freight never touches the ground and the trucks load themselves.

Bounty and Charmin bundles move on overhead conveyers like roller coaster cars at Dorney Park and drop through an automatic palletizer neatly stacking two pallets high and wrapping the paper towel tower in plastic.

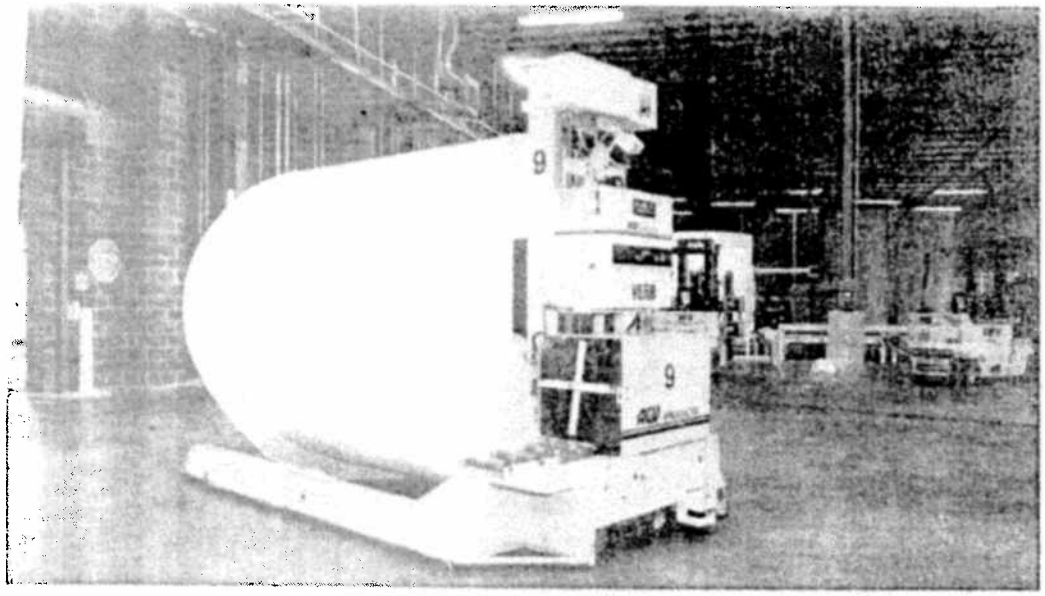
The stack nudges down a large conveyor system that feeds six bays. A fleet of 14 dedicated trucks that run from the plant to the Meshoppen distribution center are customized to handle the loads. Dave Pugh, a driver for Kane is Able trucking, is told via radio what bay is ready. He comes into the dock and

## About P&G

**Headquarters:** Cincinnati, Ohio
**Brands:** 300
**Major U.S. brands:** Cover Girl, Folgers, Pringles, Tide, Crest, Cascade, Ivory, Puffs, Scope, Iams, Old Spice, Pantene, Head & Shoulders, Vicks, Always, Tampax
**Annual Sales:** $51.4 billion
**Market:** 160 countries
**Operations:** 80 countries

## Rolling along

The Wyoming County facility opened in 1966, part of Procter & Gamble's Charmin Paper Products Co.
**Employees:** 2,250. An additonal 1,500 people work at the facility under arrangements with other companies.
**Average P&G wage:** $21.60 per hour
**Size:** Washington Township plant, 3.5 million square feet; Meshoppen Distribution Center: 1.8 million square feet
**Products:** Charmin, Charmin Ultra, Bounty, Bounty Napkins, Pampers, Luv's
**Product Launches:** Luv's diapers in 1976. Bounty Napkins in 2001
**Daily water use:** 8 million to 9 million gallon draw from Susquehanna River. Seven million to 8 million gallons returned



LINDA MORGAN / TIMES-SHAMROCK NEWSPAPERS

**An automatic forklift transports a large roll of paper towels at the Procter & Gamble plant.**

turns his key into a control panel and watches the load be slowly pulled into the truck like a loaf going into a bread bag.

"It used to take 40 minutes to load a truck," Mr. Pugh said. "Now it takes a few minutes."

## Don't squeeze the margin

Imagine a giant Mr. Whipple looking over the Procter & Gamble properties admonishing them to be efficient.

Procter & Gamble was a stodgy blue chip with a few reliable, unchanging brands in slow-growing categories. Company executives knew the company had to innovate on new brands and product extension or become more efficient with its powerhouse portfolio.

In Mehoopany, they had to make mature, established brands more cheaply to add to the corporate bottom line. The facility needed to cut costs.

A $350 million investment bought two new paper machines, built the new warehouse and installed palletizer and unmanned loading dock.

"Local-sourcing" of jobs has been another way to cut costs. There was a time when everyone at the facility received paychecks from Procter & Gamble. Today about 1,500 workers at the site work for outside firms, often working shoulder-to-shoulder with Procter & Gamble employees. In some cases, the outside contractors take over jobs that had belonged to well-paid Procter & Gamble employees, who on average earn an hourly rate of about $21.60, with regular overtime, educational reimbursement, and an employee stock ownership plan as added benef

In recent years, for example, material handling jobs have been passed to outside firms that generally pay their employees less. Some laboratory and testing work is now farmed to an outside group. The 1.7 million-square-foot warehouse, which centralized storage for the plant, is operated by Kane is Able, as are the 14 dedicated trucks running regularly from the plant to the warehouse.

"Procter & Gamble employees will be those directly involved in the making of the product," Mr. O'Hara said. "As a corporation, and as a manufacturing facility, we are focusing on our core competencies."

In 1990, the company's employment crested at 3,000. It has been slipping since with the increased use of contractors, new technology, and more automation.

A.G. Edwards analyst Jason Gere said what's happening at Mehoopany is characteristic of what Procter & Gamble is doing at all its factories.

The company's strong point, Mr. Gere said, is using technology to make products faster — even if it's filling Crest toothpaste tubes faster.

"P&G is ahead of the game when it comes to having the right technologies to improve asset efficiency," he said. "From a manufacturing standpoint, the company has made great strides."

Mr. Gere said Procter & Gamble remains at the top end of corporate peers, delivering double-digit earnings growth.

The $350 m[illegible] investment shows that [illegible] company is committed to the region. From a practical standpoint, P&G Paper Products benefits from being in the Endless Mountain region, Mr. Gere said. The diapers and paper products from the plant stock store shelves in the mid-Atlantic and New England states. Also, the plant needs to be near Canadian pulp paper suppliers, he said.

Mr. Cummings said the average lifespan of a manufacturing facility is 40 years. Thomson Consumer Electronics in Dunmore and Techneglas in Jenkins Township are examples of facilities that ran their course and life spans.

Approaching its fourth decade of operation, Procter & Gamble in Mehoopany has proven itself entrepreneurial and innovative, he said.

"Going beyond 40 years as a manufacturer shows that you must being doing something right," Mr. Cummings said. "Making that landmark suggests a you have kept pace with technology, been visionary, and made tough decisions. If you look at P&G as a corporation —that's how they do things."

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